Contribution ID: **50** Type: **Invited talk**

Hadron Production Experiments

Wednesday 30 October 2024 11:00 (35 minutes)

Present and future accelerator-based neutrino experiments demand a precise estimation of systematic uncertainties to achieve the goal sensitivity of their measurements. One of their leading uncertainties comes from an inadequate understanding of primary and secondary hadron-nucleus interactions, which results in the large uncertainty of the neutrino flux. This contribution will review the hadron production uncertainty in neutrino experiments, the current hadron production experiments, such as the NA61/SHINE experiment at CERN and the EMPHATIC experiment at Fermilab, and discuss their recent efforts and future plans to reduce the flux uncertainty in the neutrino experiments.

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Session Classification: Invited talks